

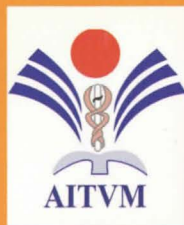
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FIELD SURVEILLANCE MODEL FOR HPAI IN VIETNAM IN A VACCINATION CONTEXT: METHODOLOGY AND PRELIMINARY RESULTS

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ABSTRACT

Highly Pathogenic Avian Influenza H5N1 epizooty started in Vietnam late 2003 and resulted into more than 50 millions poultry culled and 93 human cases (42 fatal cases). In 2005, the Government decided to apply a mass vaccination campaign to limit virus circulation and to reduce the threat to human health. Then, neither outbreaks in poultry nor in human have been notified for about one year. With a majority of poultry vaccinated in the higher risk areas, the clinical expression of H5N1 inevitably changed and as a result the surveillance approach should be adapted. Routine virological surveillance and recent outbreaks showed that virus is still circulating. Within a FAO project funded by Japanese Government, a model is tested to strengthen the surveillance of H5N1 infection among backyard and commercial poultry. This model was designed to increase the detection and the notification of suspect poultry health events that could be avian influenza. An awareness campaign explained to key stakeholders that due to vaccination, criteria to detect a H5N1 outbreak should change. A targeted surveillance programme is also tested including a disease-free certification for vaccinated semi-commercial broilers farms and an active community animal disease surveillance component in selected villages. The methodology of this surveillance model and preliminary results are presented.

INTRODUCTION

A rapid assessment of the current surveillance system as well as bibliography review was conducted in order to propose some improvements within a FAO project funded by the Japanese Government in four pilot provinces in Vietnam. This assessment revealed that only few suspicions of Highly

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Pathogenic Avian Influenza, HPAI, were reported to the provincial or central authorities in 2006. This is a clear indication that the surveillance system was facing some constraints since poultry mortality due to acute diseases generally occurs every year. Either the system did not detect any suspicion which demonstrates a lack of sensitivity in the surveillance system or the system did not report the suspicion(s) which may indicate a problem in the reporting methodology and data management or even, in some areas, a politicization of the information related to AI which makes difficult for the stakeholders to report. We demonstrated that field workers (paravets and official veterinarians) were using a quite specific case-definition for HPAI probably not adapted to a vaccination context. Indeed, the cumulative mortality rate would be probably lower than it used to be at a village level or even a flock level. It was also pointed out that the representativeness of the surveillance system for poultry is not adequate. Indeed, the semi-commercial sector, considered at high risk for HPAI transmission, is not properly covered by existing surveillance systems since all the efforts for the data collection try to strengthen the link between the paravets and the District Veterinary Station, DVS, whereas the paravets are not commonly called by the semi-commercial farmers. The commercial and integrated sectors are also outside of the current system but pose probably a lower risk for AI transmission.

In the frame of the FAO project, different actions were proposed to handle those constraints either by trying to improve the detection and the reporting or by implementing targeted active surveillance activities. In a context of mass vaccination campaign it was proposed to target the surveillance on sector 3 (FAO, 2004) broiler farms (vaccination of Day Old Chicks with Trovac) and to link this surveillance with a disease free certification. We also propose to give more confidence in the reporting system thanks to targeted surveillance in selected villages using participatory approach. To introduce participatory epidemiology skills for the field veterinarians may help to strengthen the link between the official veterinary services and the key informants of the animal sector and may improve the routine animal diseases information data flow (Catley, 2005).

METHODOLOGY

Improving detection and reporting

The idea was to stimulate the current reporting surveillance system by awareness campaign and by removing some of the identified obstacles to report. The key stone of the awareness campaign was to spread a very

sensitive case-definition for HPAI, where AI was diluting among other acute poultry diseases (Newcastle Disease, ND, pasteurellosis and duck plague). The purposes of doing that were i) to make farmers and paravets understanding they cannot differentiate those diseases from AI and as a consequence, they should report when they suspect any of them; ii) to facilitate the sending of samples by limiting the political pressure (cf. the other diseases do not imply strict control measures); iii) to provide an incentive for farmers and paravets by supporting free laboratory testing for the 4 diseases.

Different actions were proposed.

- Define a new case-definition of a HPAI suspect case for all the stakeholders and assist the DVS to screen and classify the suspicions using a decision tree.
- Organise training program on “Reporting” for the main stakeholders using different communication tools (calendars, stickers, posters). The involvement of drugs and feed sellers was strongly supported since they can act as a relay of communication to farmers from semi-commercial sector.
- Deploy an incentive-based notification system by providing limited financial support for data providers. Advertise on rewarding policy for the first confirmed suspicion in a commune or a district (already existing on paper in one pilot province for other diseases) as an incentive for paravets and farmers to report. The establishment of an emergency fund at provincial level was proposed to the DAH to facilitate its implementation but was not considered at this stage.
- Supporting travel cost for district vets to an extent that could be supported by the provinces in the future.
- Set up hotline with free access numbers for everybody in each pilot province.
- Improve free access to a phone for those willing to report a suspect case of contagious diseases by identifying houses in some villages where an advertisement could be posted offering the use of a phone. This proposal was not considered in the pilot provinces.
- Organise awareness actions for provincial political actors, after veterinary officers reported some difficulties to communicate on technical issues and to fully follow guidelines issued by central level on diseases control in general, and HPAI in particular.

Improvement of data standardisation, data compiling and analysis

Different standardised supports were proposed in order i) to limit the use of narrative reports by paravets ii) to enable the veterinarians to better screen the suspicion when receiving suspicion call or report iii) to enable DVS to improve outbreak investigation. On a routine basis, the district veterinarians were also supported to perform basic data analysis and to spread this information back to the stakeholders to keep them motivated.

Active surveillance plan

This targeted active surveillance programme has two parts.

- Disease-free certification for broiler farms and post-vaccination monitoring on duck farms. The program includes virology confirmation of absence of virus circulation in addition to serology (to assess vaccine efficacy) if vaccination is maintained. Dead birds are targeted to increase the chance of detecting the virus. The certification could be issued based on laboratory results and minimum biosecurity requirements fulfilled. In a first phase, sector 3 vaccinated broiler farms are targeted because i) it is feasible to improve significantly the biosecurity level of this category of farms ii) they pose a higher risk in term of disease dissemination than layer farms (layer farms could be considered in a second phase). In order to assure the sustainability of this programme, the farmer financial involvement in testing costs could be considered using the amount the farmers are currently paying for the health certification. The certification is not proposed at this stage for duck farms since they have a low to very low level of biosecurity difficult to improve. A post-vaccination surveillance will be designed for this category to complete the national program.

- Community active disease surveillance targeting the backyard sector (with lower vaccination coverage) and based on clinical surveillance. Poultry health situation will be observed every month in selected villages thanks to semi-structured interviews of key informants (drug and feed seller, heads of villages or paravets and human health workers) and by direct observations (around 6 families per village) by a team of 2 persons (paravets and district vet). The team will look for evidence of outbreaks consistent with HPAI using the case-definition disseminated (unusual mortality, sudden death or clinical signs of either AI, ND duck plague or pasteurellosis). The data collected will be compared with the information received via the reporting system to detect possible under-reporting of sensitive health events.

Selection of at-risk communes

Communes and villages were selected according to the risk of introduction and dissemination of AI (high concentration of poultry, sector 3 farms present, high road density, big live bird markets, lowest vaccination coverage for backyard sector, wetlands known to host wild birds, not covered by national post-vaccination program) and also according to the feasibility to implement activities.

RESULTS AND DISCUSSION

The activities related to the stimulation of the network, in particular the distribution of communication tools in the drugs and feed shops, one important target of the campaign, were delayed. Thus, the system cannot yet be properly evaluated. Nevertheless the number of suspicions reports (through hotline or directly) in the 4 pilot provinces increased significantly in 2007 compared to 2006 but not all suspicions were followed by sample collection and complete investigation. Among the reasons, we can mention the difficulty to get carcasses (as requested by laboratory) from backyard farms and the fear of the district veterinarians not to get their travel expenses reimbursed. At this stage, in the only pilot province infected in 2007, 1 confirmed case was reported via the hotline, the other one was communicated directly to the DVS. The better reporting can be due to the awareness actions but also to the new wave of outbreaks that brought back HPAI on the media scene. Unfortunately, it is not possible to get data about suspicions in other provinces to make comparisons. Another difficulty noted by the project was related to some “abuse” use of the hotline by paravets or district veterinarian since the call is free of charge. The active surveillance program started in May 2007, and evaluation will be done in December 2007.

REFERENCES

- Catley A., 2005. Participatory epidemiology: a guide for trainers. African Union/ Interafrican bureau for animal resources. Nairobi, Kenya.
- FAO, 2004. Guiding principles for Highly Pathogenic Avian Influenza surveillance and diagnosis network in Asia. FAO expert meeting on surveillance and diagnosis of avian influenza in Asia, Bangkok, Thailand.